

Press release

New SUPROMED platform for water, energy, and fertilizers management in Mediterranean agro-ecosystems available now!

SUPROMED 'Sustainable Production in water limited environments of Mediterranean agro-ecosystem' is a Research & Innovation project funded under the PRIMA programme section I supported under horizon2020, the European Union's Framework Programme for Research and Innovation, that started in October 2019 for a period of 3 years. The project is composed of a multidisciplinary team of ten partners from five countries: Spain (UCLM, ITAP, HISPATEC), France (SEMIDE), Greece (UTH, 3DSA), Lebanon (DIFAF, ULFA) and Tunisia (INRGREF, INGC). SUPROMED aims to enhance the economic and environmental sustainability of Mediterranean farming systems through a more efficient management of water, energy and fertilizers.

SUPROMED is providing a holistic crop-livestock water management system resilient to climate change. To this aim, SUPROMED is integrating a validated set of models and tools on an [online platform](#) to **increase the production and income of farms through a reduction and a more efficient use of water**, and other inputs such as **energy and fertilizers, while decreasing the impact on the environment**.

SUPROMED tools are using in-situ data and Earth Observation (EO) imagery, agro-alerts¹, agroclimatic classification and zoning together with drought forecast tools linked to climatic change. SUPROMED's end-user platform is being demonstrated in pilot areas across **Spain, Lebanon, and Tunisia**.

[SUPROMED's ICT platform](#) acts as a toolbox offering end-users the possibility to apply a set of interlinked models as well as to access useful information related to their farm based on their needs:

- **Irrigation scheduling**: MOPECO and IREY
- **Optimal crops distribution**: MOPECO
- **Full modelling and optimisation of farm management**: MOPECO

¹ Early warning system of adverse weather phenomena with the aim of protecting agricultural production from imminent adverse natural phenomena (frost, hail, rain, thunderstorm, lightning) with great spatial and time accuracy, even focusing on specific areas of increased risk

- **Design and optimization of irrigation network:** DOPIR (for pressurised irrigation systems), DOPIR-Solar (for solar-powered irrigation) and PRESSUD (for sprinkler and drip irrigation systems).
- **High resolution medium-range weather forecast:** 7-day daily forecast with WRF², 2km resolution (using GFS³ data)
- **High resolution seasonal climatic forecast:** 6-month monthly forecast with WRF, 2km resolution (using CFS⁴ data)
- **Climate change scenarios:** WRF for the period 2020-2050, 6km resolution (using data from CESMv1⁵ under RCP4.5⁶)
- **Evapotranspiration data and maps:** EO derived product

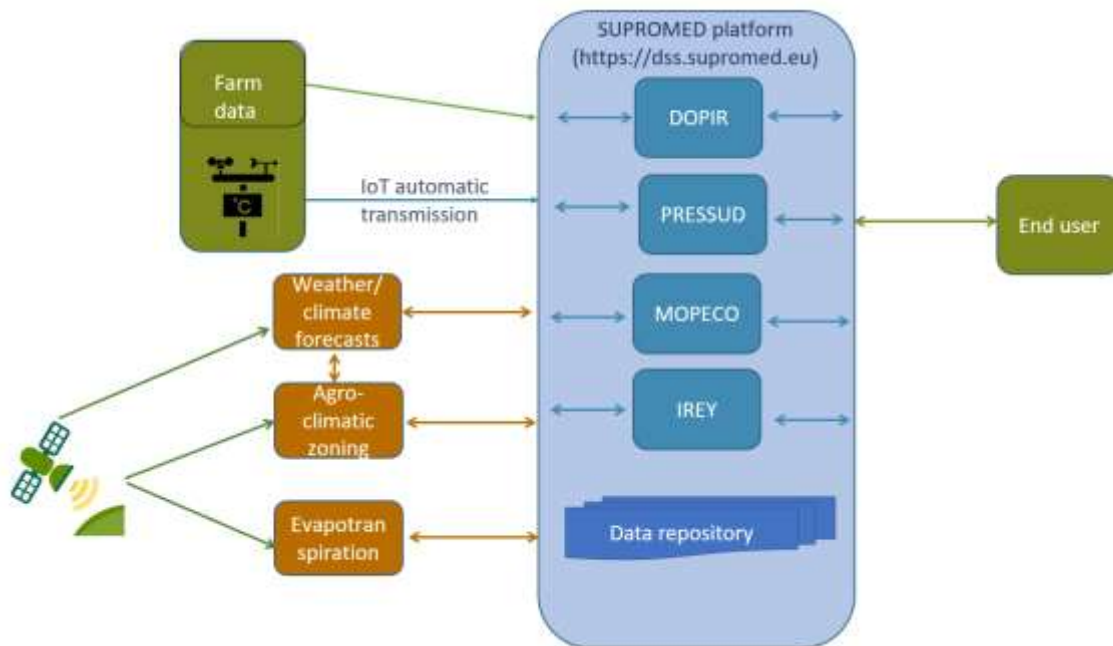


Figure 1 SUPROMED PLATFORM STRUCTURE

The platform can be used by all technicians and farmers who want to optimise their water, energy and fertilizers use and increase their profitability. It can be also used by policy-makers at local level for the estimation of the water use in the agricultural sector to reduce the pressure on the

² Weather Research and Forecasting

³ Global Forecasting System is a weather forecast model produced by National Centers for Environmental Prediction (NCEP)

⁴ The Climate Forecast System or Coupled Forecast System (both names abbreviated CFS) is a medium to long range numerical weather prediction and a climate model run by the National Centers for Environmental Prediction (NCEP)

⁵ Community Earth System Model

⁶ Representative Concentration Pathway 4.5



SUPROMED
Sustainable production in water limited
environments of Mediterranean agro-ecosystem



SUPROMED (PRIMA/ Research & Innovation Activities (RIA)) Grant Agreement no. 1813

resource, as well as to assess the effect of water restrictions, water price, energy costs and subventions on the final profitability of the farms.

To start with SUPROMED Platform, users must upload the characteristics of the farm: climate, soil and crops data as well as irrigation infrastructure to generate specific outputs such as irrigation scheduling, optimal crops distribution, design and optimization of irrigation network, high resolution weather forecasts, climate forecasts, fertiliser needs, evapotranspiration data and maps. SUPROMED platform is available free of charge on SUPROMED website: <https://dss.supromed.eu/portal/>. A set of video tutorials on how to use the platform is available on the [project website](#). Specific Matlab compiler indicated in PRESUD and DOPIR manuals (available for download when installing the software) must be installed before using the platform.

SUPROMED aims to promote a **10-20% increase in the adoption of organizational and technological innovations** in farms with an overall impact across the Mediterranean basin. Thanks to its platform, SUPROMED increases the agronomic and economic/ **water productivity** at the farm level by 10-20%. By applying SUPROMED, farmers can save more than **15% of irrigation water and around 10% of the energy used**. The platform improves the design and management of **water infrastructure and crop rotation** in the farm and increases the **farmer profitability** by more than 10%.

Project Details

Project No: PRIMA/ Research & Innovation Activities (RIA) Grant Agreement no. 1813

Start Date: 01/10/2019

Project Duration: 36 months

More information can be found on SUPROMED WEBSITE: supromed.eu

For additional information, please contact the Project Coordinator: **Dr. Alfonso Domínguez Padilla**, email: Alfonso.Dominguez@uclm.es

Or the official e-mail address of SUPROMED: contact@supromed.eu